

**DOE News Release  
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## **IsoRay Medical test for producing cancer therapy isotope starts in Idaho National Laboratory reactor**

An important test for demonstrating production of a critical cancer therapy isotope, cesium-131, is under way in Idaho National Laboratory's (INL) Advanced Test Reactor (ATR).

On June 27, INL researchers inserted five capsules of barium carbonate into the reactor. For two weeks, the reactor will bombard the capsules with neutrons. The irradiation will create the isotope cesium-131, through radioactive decay, that will be used in a promising cancer treatment.

The reactor irradiation is a key step in the isotope production process that was launched in December 2005, when a collaboration and partnership agreement involving INL, IsoRay Medical, Inc. and Bannock Development Corporation was announced.

Officials expect the test to demonstrate the ATR can efficiently produce the quality and quantity of the isotope sufficient to meet IsoRay's need to produce "seeds" for cancer treatment.

After the two weeks of irradiation, the stainless steel capsules containing barium carbonate, encased in an outer stainless steel container, will then be removed and transported to IsoRay's processing facility in Richland, Wash. There, the cesium-131 will be recovered and analyzed.

Roger Girard, chairman and chief executive officer of IsoRay, said, "The therapy can be used for all malignant soft tissue cancer throughout the body. The treatment is a major potential step forward in cancer therapy that will treat thousands of patients a year. It is a dramatic therapy that offers an extremely high cure rate at a very economical price to the medical system."

In preparing for the test, INL engineers and technical staff spent months performing a thorough safety analysis of the test to determine the necessary neutron bombardment rate in the reactor core for producing the isotope, to predict the reactor's response to the test samples, and to learn how the capsules and outer container would react to the temperatures and pressures to which they would be subjected.

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